Chesapeake Bay Program
Science. Restoration. Partnership.

Toxic Contaminants Research Outcome

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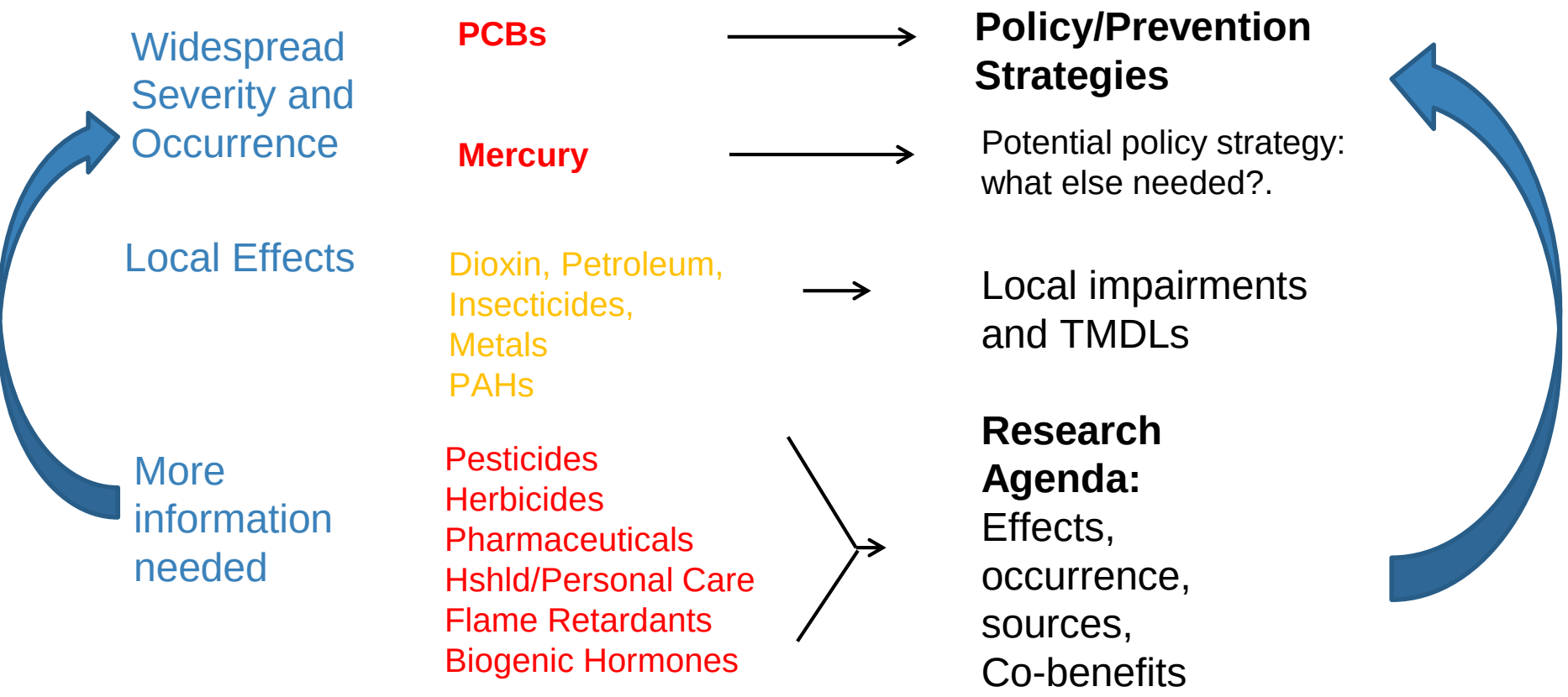
Goal: *Toxic Contaminants Goal*

Outcome:

Continually increase our understanding of the impacts and mitigation options for toxic contaminants. Develop a research agenda and further characterize the occurrence, concentrations, sources and effects of mercury, PCBs and other contaminants of emerging and widespread concern. In addition, identify which best management practices might provide multiple benefits of reducing nutrient and sediment pollution as well as toxic contaminants in waterways.

Logic: Contaminant Groups and Strategies



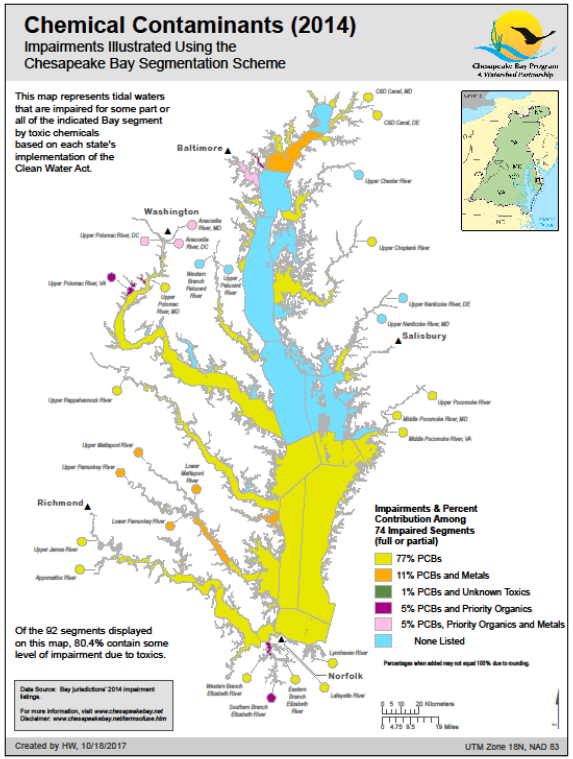
Management Approaches

Logic Behind Our Outcome

- Fish and shellfish safer for human consumption;
- Contaminants degrading the health, and contributing to mortality, of fish and wildlife;
- Occurrence, concentrations and sources;
- Assess relative risk of contaminants, and options for mitigation, to inform policy and prevention strategies,
- Issues of emerging concern

Logic Behind Our Outcome

Factors



- Different assumptions about fish consumption
- Causes of the degradation to fish and wildlife
- Lack of consistent information
- Lack of toxicity thresholds
- Prioritizing contaminants and addressing mixtures
- Resource constraints

Are we on track?

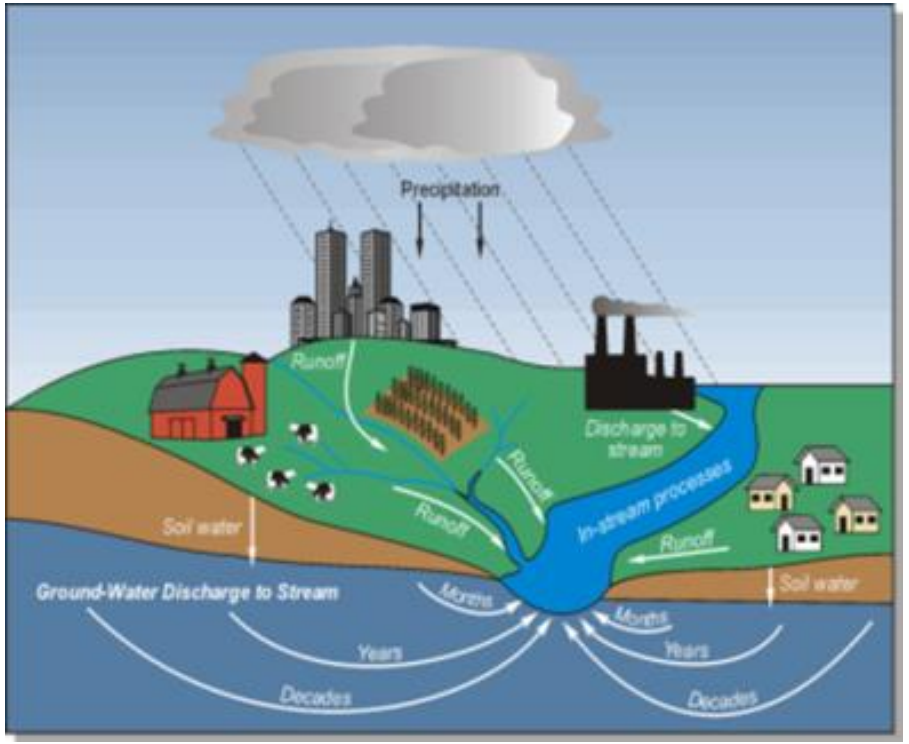
Analysis

- Fish and shellfish safer for human consumption:
  PCBs; Mercury
- Contaminants degrading the health, and contributing to mortality, of fish and wildlife:
  Effects; Causes
- Occurrence, concentrations and sources:
  EDC study; State monitoring;
- Assess relative risk of contaminants, and options for mitigation, to inform policy and prevention strategies:
  Relative risk; Co-benefits
- Issues of emerging concern: Micro-plastics

Challenges

- "Too many" contaminants and mixtures
- Understanding causes
- Risk and prioritization
- Resource constraints & lack of capacity

- Synthesis and implications



Based on what we've learned, we plan to…

- Address Mercury
- Less focus on impacts of individual contaminants
- More use of state monitoring and academic research
- Less emphasis on risk assessment
- Greater focus on potential co-benefits of practices
  - -WWTP, storm water, and agriculture
- More syntheses
- Management implications and WQ GIT WGs

Management Approaches

Potential Revisions

- Fish and shellfish safer for human consumption;
  -Address Hg;
- Contaminants degrading the health, and contributing to mortality, of fish and wildlife;
  -Other biological endpoints? multi-state issues
- Occurrence, concentrations and sources;
  -Focus on ag and urban settings, WWTPs
- Assess relative risk, and options for mitigation, to inform policy and prevention strategies,
  -Drop risk assessment, focus on co-benefits for reducing sources
- Issues of emerging concern; new topics?